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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/679,261	10/04/2000	Bruce L. Davis	60303	7123

23735 7590 07/24/2003

DIGIMARC CORPORATION
19801 SW 72ND AVENUE
SUITE 100
TUALATIN, OR 97062

EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 07/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/679,261

Applicant(s)

DAVIS ET AL.

Examiner

Regina Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. The finality of the previous Office action is withdrawn.

Specification

2. The specification does not contain any proper heading as required in US practice, the following guides are suggested. Correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino

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acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claims ^{1, 3, 4,} 1-4 and 8, applicant refers to circuitry coupled to the sensor that produces multi-bit information. Applicant refers sensor is in acquiring optically-encoded multi-bit information for the medium and the circuitry is integrated on a common substrate with the sensing elements. Applicant also refers to a transfer means -either a cable or wireless link, for relaying the output data. But applicant does not provide support in the disclosure for these elements. Page 1 of the specification mentions "device includes a multi-element CMOS optical sensor integrated on an IC.... processing circuitry ... tracks movement of patterns across the sensor's field of view". Then page 3 mentions "wireless links ... freeing the user from the constraint imposed by the cable". The disclosure does not provide sufficient support for these

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elements because there is no description detailing how these elements are implemented or perform the function respectively claimed.

✓ As to claim ^{5, 8, 10}5, applicant refers to a decoder for discerning steganographically-encoded information. But applicant does not provide support in the disclosure for this element. Page 4 of the specification mentions "The Bedoop detection system... decodes same to extract the steganographically-embedded data hidden therein." The disclosure does not provide sufficient support for the decoder because there is no description detailing how it is implemented and performs the function claimed.

As to claims ~~6, 7~~, applicant refers to an optical sensor comprising an array of sensor elements. Page 1 of the specification mentions "the optical sensing system can comprise a 1D .. Or a 2D array". The disclosure does not provide sufficient support for these elements because there is no description detailing how these elements are implemented or perform the functions respectively claimed.

As to claim 9, applicant refers to optically encoded information that comprises a plural-bit identifier. But applicant does not provide support in the disclosure for this element. Page 2 of the specification mentions "Bedoop data ... optionally with data identifying the consumer". The disclosure does not provide sufficient support for this identifier because there is no description detailing how it is implemented.

As to claim ~~10~~, applicant refers to processing optical sensor data to produce plural-bit data. But applicant does not provide support in the disclosure for this step. Page 2 of the specification mentions, "optical data collected by the sensor can be processed". The disclosure

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does not provide sufficient support for this processing step because there is no description detailing how it is implemented.

As to claim 11, applicant refers performing a steganographic decoding process. But applicant does not provide support in the disclosure for this element. Page 4 of the specification mentions "The Bedoop detection system... decodes same to extract the steganographically-embedded data hidden therein." The disclosure does not provide sufficient support for the steganographic decoding process because there is no description detailing how it is implemented and performs the function claimed.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is vague and indefinite in that the steganographically-encoded information was never defined in claim 1.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shellhammer et al (US. PAT. NO. 5,635,697 hereinafter Shellhammer).

As to claim 10, Shellhammer discloses a method of interacting with printed material using a peripheral device (18 in Fig. 1, or 200 in fig. 3A) which including an optical sensing system (camera) comprising plurality optical sensing elements (CCD array), comprising positioning the device over the printed material (see Figs. 1 and 3A), generating optical sensor data from the optical sensing system, the data corresponding to a machine-readable indicia (bar code) formed on the printed material, processing the optical sensor data to produce plural-bit data corresponding to the machine-readable indicia, and providing the plural-bit data to the computer (col. 5, line 6 to col. 6, line 42).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 6, 7, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkerson (US. PAT. NO. 4,804,949) in view of Bejnar et al (US. PAT. NO. 5,484,998).

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As to claims 1 and 10, Faulkerson discloses a peripheral device for use with a computer system comprising a housing (25) adapted to fit within user's palm and slide over a printed material on a medium (15), an optical sensor (27) having plural sensing elements and producing image signal, a lens (29F) for imaging the medium onto the sensor, circuitry (30) coupled to the sensor and disposed within the housing for processing the signals from the sensor and producing corresponding output data (col. 4, lines 33-37), transfer means (cable 31) for relaying the output data from the peripheral device to the computer system (col. 6, lines 45-47). Faulkerson does not explicitly disclose that the printed material comprising encoded multi-bit information or a machine-readable indicia formed on the printed material. However, Faulkerson teaches it is well known in the art that optical scanner can scan images such as a bar code or line of text, so as to provide an electrical signal which represents a recognized character or sequence of character (col. 1, lines 15-21 of Faulkerson). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to realize that Faulkerson's scanner can also scan printed materials including a machine-readable bar code formed thereon. Furthermore, Bejnar teaches a bar code pattern including multi-bit encoded information (col. 2, lines 32-35). Thus, it would have been obvious to one of ordinary skill in the art that the bar code pattern as disclosed by Faulkerson comprises multi-bit encoded information as is well known in the art.

As to claims 2, 3, Faulkerson teaches the transfer means is a cable or a wireless link (col. 5, lines 32-38).

As to claim 4, Faulkerson teaches the circuitry analyzes the image signals and produces multi-bit information corresponding thereto (col. 4, lines 32-37).

As to claims 6 and 7, Faulkerson teaches the optical sensor comprises a 1D or 2D array of sensor elements (col. 3, lines 37-46).

As to claim 9, Bejnar teaches the bar code system comprising a plural-bit identifier (col. 1, lines 6-9).

11. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkerson and Bejnar as applied to claims 1 and 10 above, and further in view of Rhoads (US. PAT. NO. 5,841,886).

Faulkerson as modified by Bejnar does not disclose the circuitry comprises a decoder for discerning steganographically-encoded information represented in the image signal. However, Rhoads teaches a printed material comprising a steganographically-encoded information, and a scanner having a circuitry comprises a decoder for discerning steganographically-encoded information represented in the image signal (col. 8, lines 31-41) for security purposes. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the circuitry of Faulkerson have a decoder for discerning steganographically-encoded information represented in the image signal as taught by Rhoads so as to enhance the security associated with the user of photo ID documents by supplementing the photographic image with encoded information thereby facilitating the correlation of the photographic image with other information concerning the person, such as the printed information appearing on the document.

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12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkerson and Bejnar, and further in view of Nixon et al ("256 x 256 QCMOS Active Pixel Sensor Camera-on-a Chip", pages 2046-2050, 12/1996, hereinafter Nixon).

Faulkerson as modified by Bejnar does not disclose the circuitry is integrated on a common substrate with the sensing elements. However, Nixon teaches the CCD sensing elements are integrated on a circuit chip to provide a high degree of electronics integration on the focal-plane will enable the simplification and miniaturization of instrument system thereby leading to overall lower power and cost (see the introduction on page 2046). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the circuitry of Faulkerson as modified by Bejnar to be integrated on a common substrate with the sensing elements as taught by Nixon for producing imaging system that can be manufactured with low cost, low power and with excellent imaging quality.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (703) 305-4719. The examiner can normally be reached on Monday-Friday from 9AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

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(703) 872-9314, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


REGINA LIANG
PRIMARY EXAMINER
ART UNIT 2674

RL